

A New Species of *Phyllonotus* (Muricidae: Muricinae) from Isla del Coco, Costa Rica

Anthony D'Attilio

Barbara W. Myers

Department of Marine Invertebrates
San Diego Natural History Museum
P.O. Box 1390
San Diego, CA 92112, USA

Donald R. Shasky

Field Associate

San Diego Natural History Museum
834 W. Highland Ave.
Redlands, CA 92373, USA

ABSTRACT

Phyllonotus eversoni, a new species from Isla del Coco, Costa Rica, is described and compared to *P. regius* (Swainson, 1821) and *P. erythrostomus* (Swainson, 1831).

INTRODUCTION

Isla del Coco (also known as Cocos Island), Costa Rica, is a small uninhabited island situated approximately 600 km SSW of Puntarenas, Costa Rica, at 5°33' latitude and 87°03' longitude. Cocos Island and the numerous islets which surround it are situated on the Cocos Ridge, which lies about 1,800 m (1,000 fm) below sea level (Hertlein, 1963:221-223).

The marine molluscan fauna at Cocos Island has predominantly Eastern Pacific affinities and probably was transported to the island from the mainland by westwardly directed ocean currents (Hertlein, 1963:226-227). However, he listed five species with Indo-Pacific origin. Emerson and Old (1964:90-91) and Shasky (1983:144, 1986:3-5) have noted several more species with Indo-Pacific affinities collected at Cocos Island. Emerson (1967:89) discusses this transport of Indo-Pacific mollusks across 3,000 miles of open sea and offers as explanation that dispersal may occur by means of the eastward flowing North Equatorial countercurrent during the free swimming veliger stage.

Montoya (1983:35, 39-40) listed four species of marine mollusks found only at Cocos Island. Stingley (1984:28) described *Oliva foxi* with the only known locality listed as Cocos Island.

For a complete bibliography of Cocos Island molluscan faunal studies, see Montoya (1983:325-353, 1984:33-44). A complete list of the marine mollusks found at Cocos Island is in preparation (M. Montoya and D. R. Shasky).

Family **Muricidae** Rafinesque

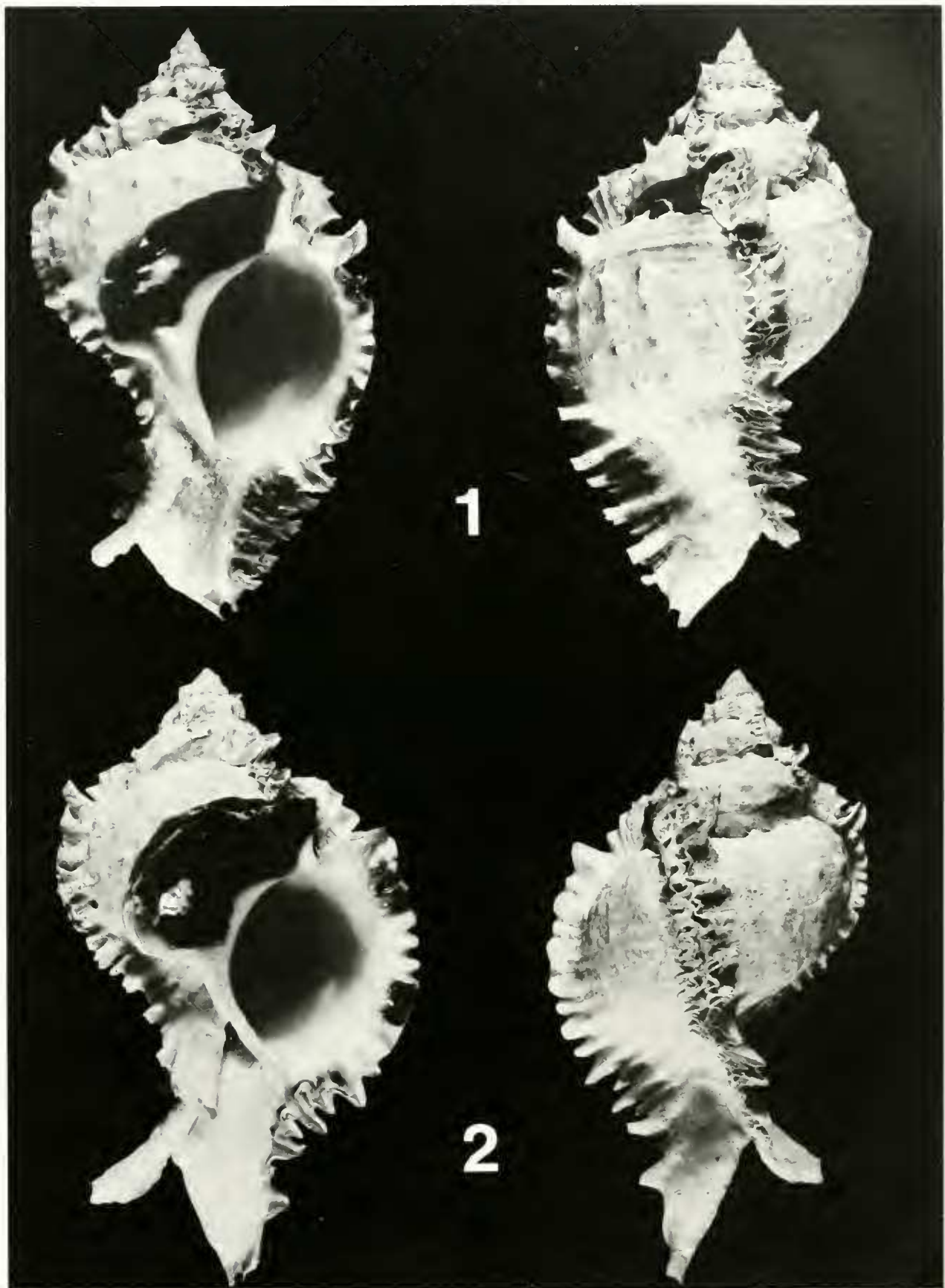
Subfamily **Muricinae** Rafinesque

Genus *Phyllonotus* Swainson, 1833

Type species: *Murex margaritensis* (Abbott, 1958), new name for *Murex imperialis* Swainson, 1831 (not *M. imperialis* Fischer de Waldheim, 1807) by subsequent designation.

Phyllonotus eversoni new species
(figures 1, 2)

Description: Shell broadly fusiform, pear-shaped; protoconch of undetermined number of whorls; eight post-nuclear, convex whorls; spire moderately high; body whorl broadly ovate; suture deeply impressed within a channel; aperture ovate; anal sulcus forming a deep trough between body and apertural varix; inner lip closely adherent above, forming a moderately raised inductura below, seven small nodes on anterior portion of columella; outer lip strongly crenulate and erect; weakly perceptible spiral cords on body, ending in broad open spines at aperture; aperture lirate within; siphonal canal broad, moderately long, distal portion narrow and recurved; left margin of canal simple, right side of canal follows indentations and grooves; siphonal fasciole with two well-preserved distal portions of previous canals; pseudoumbilicus present at juncture of canal, siphonal fasciole and inductura; three spinose varices on body whorl, penultimate whorl and antepenultimate whorl; first four post-nuclear whorls with strong axial ribs and little indication of varices; fifth, sixth, and seventh post-nuclear whorls with gradually diminishing axial ribs but with a series of nodes present at intersection of axial and spiral sculpture; varices erect, with broad open spines in two axial parallel rows on leading side; eight primary spines on



body whorl and five on canal; buttresses extremely fine, thin walled, crossing the sutural channel and abutting the whorl above; five diffuse weak spiral cords on body whorl, four somewhat stronger cords on canal, entire dorsum rippled and crossed by microscopic spiral threads.

Color: Pale pink to deeper fleshy pink between varices, fading on canal; two to three weak brown bands on shoulder; leading sides of nodes on body whorl are brown; two brown spots on dorsal and ventral sides of the varices, one at shoulder and one at lower half of body whorl, some brown color on spines of canal; parietal callus lustrous brown above inductura, extending into anal sinus; a diagonal band of brown from previous parietal area preserved on last two whorls; columella deep pink.

Type locality: In 66 m, southwest side of Isla Manuelita, in tangle net. March 20, 1984.

Holotype: USNM 859932 (figure 1) 143 mm long \times 77 mm wide.

Type material: Paratype 1: USNM 859933 (figure 2) 189 mm long \times 104 mm wide. April 25, 1986. 66 m, Chatham Bay, Cocos Island, in tangle net. Paratype 2: SDNHM 91514 138 mm long \times 81 mm wide. March 20, 1984. Roca Sucia in 27 m. Paratype 3: 170 mm long \times 92 mm wide. March 20, 1984. East side of Isla Manuelita in 18 m. Collection of Gene Everson. Paratype 4: 128 mm long \times 61 mm wide. April 26, 1987. 90 m Chatham Bay, Cocos Island. Collection of D. R. Shasky. Paratype 5: 130 mm long \times 67 mm wide. April 26, 1987. 90 m Chatham Bay, Cocos Island. Collection of D. R. Shasky. Paratype 6: 151 mm long \times 80 mm wide. April 26, 1987. 90 m Chatham Bay, Cocos Island. Collection of D. R. Shasky. Paratype 7: 166 mm long \times 84 mm wide. April 26, 1987. 90 m Chatham Bay, Cocos Island. Collection of D. R. Shasky. Paratype 8: 103 mm long \times 55 mm wide. April 26, 1987. 90 m Chatham Bay, Cocos Island. Collection of Douglas von Kriegelstein. Paratype 9: 140 mm long \times 75 mm wide. April 26, 1987. 90 m Chatham Bay, Cocos Island. Collection of Douglas von Kriegelstein. Paratype 10: 144 mm long \times 74 mm wide. April 26, 1987. 90 m Chatham Bay, Cocos Island. Collection of Douglas von Kriegelstein. Paratype 11: 160 mm long \times 85 mm wide. April 26, 1987. 90 m Chatham Bay, Cocos Island. Partial specimen. Collection of Douglas von Kriegelstein. Paratype 12: 168 mm long \times 82 mm wide. April 26, 1987. 90 m Chatham Bay, Cocos Island. Collection of Douglas von Kriegelstein. Paratype 13: 134 mm long \times 66 mm wide. April 26, 1987. 90 m Chatham Bay, Cocos Island. Collection of Kirstie Kaiser. Paratype 14: 174 mm long \times 87 mm wide. April 26, 1987. 90 m Chatham Bay, Cocos Island. Collection of Kirstie Kaiser. Paratype 15: 137 mm long \times 69 mm wide. April 26, 1987. 90 m Chatham Bay, Cocos Island. Collection of Michel Montoya. Paratype 16: 151 mm long \times 75 mm wide. April 26, 1987. 90 m Chatham Bay, Cocos Island. Collection of Michel Montoya.

Paratype 1, the largest specimen collected, is fully mature with a completely developed outer lip. This spec-

imen has a long canal (80 mm compared to 44 mm on the holotype). There are 11 to 12 spiral cords on the body whorl which become evanescent in the intervarical areas, except on the canal. The outer lip on this large paratype is strongly reflexed, the crenulations terminating at right angle to the aperture; the anterior two-thirds portion has 24 short, strong, close-set lirae or denticles on the inner edge of the outer lip. The nodes on the columella numbering 10 in this specimen become stronger and elongate. The color of this specimen beneath a white opaque layer of soft calcium (intra-calc) is pale pink where the shell has been abraded. The parietal callus is a lustrous brown, the columella and inner side of aperture are pale pink.

The number of cords on the body whorl of this new species varies, as do the number of nodes on the columella, the length of the canal, and the number of spines on the varices. The reflected outer lip and the denticles on the inner lip vary with growth and maturity. Operculum is typically muricoid, unguiculate, and thickened marginally with a depressed central area on its inner surface, nucleus basal.

Etymology: We are pleased to name this species for Gene Everson who collected and donated the holotype and who has been generous in the past in contributing specimens for scientific study.

DISCUSSION

This new species is most closely related to *Phyllonotus regius* (Swainson, 1821) and *P. erythrostomus* from which it differs in the following characters: *P. regius* has six to seven varices, *P. erythrostomus* has four to five varices, while the new species has only three varices. The broad sutural channel found on the new species is lacking on both *P. regius* and *P. erythrostomus*.

D'Attilio (1984) has shown that occasional specimens of *P. erythrostomus* can have the same parietal and inductural coloring as *P. regius* and the new species.

Vokes (1984) figured this new species as *Chicoreus* (*Phyllonotus*) new species.

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